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ABSTRACT

A sense of efficacy, the extent to which teachers believe that they have the capacity to affect pupil performance, is related to both teaching behaviors and pupil performance. This study was designed to test the developmental hypothesis that teachers' sense of efficacy would increase during their successful progression through preservice training and inservice teaching. Approximately 300 outstanding preservice and inservice teachers at 4 distinctly different stages of career development were administered the Teacher Efficacy Scale. The sample consisted of highly successful teachers (N=225) and of high-potential prospective teachers (N=65) at the commencement of teacher preparation and at early-, mid-, and late career development stages. Findings indicated that the four groups of outstanding preservice and inservice teachers did not report statistically significant different senses of personal teaching efficacy or teaching efficacy. Differences between the 4 groups of responses of 5 of the 16 efficacy statements were significant, but the differences were limited to those between preservice and inservice teachers. These item analyses also indicated that preservice teachers tended to report a lower sense of personal efficacy but a higher sense of the efficacy of teachers as a group than did the inservice teachers. (Contains 16 references.) (LL)

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Outstanding Teachers' Sense of Teacher Efficacy at Four Stages of Career Development

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Abstract

The primary purpose of this study was to test the developmental hypothesis that teachers' sense of efficacy will increase during their successful progression through preservice training and inservice teaching. Approximately 300 outstanding preservice and inservice teachers at four distinctly different stages in their careers were administered the Teacher Efficacy Scale. It was found that outstanding teachers upon the commencement of training and at early, mid, and late career stages did not report statistically different levels of Personal Teaching Efficacy or Teaching Efficacy. Differences between the four groups of teachers' responses to 5 of the 16 efficacy statements were significant, but these differences were limited to just those between the preservice and the inservice teachers. These item analyses also indicated that preservice teachers tended to report a lower sense of personal efficacy but a higher sense of the efficacy of teachers as a group than did the inservice teachers.

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Outstanding Teachers' Sense of Teacher Efficacy at Four Stages of Career Development

The psychological conception of teachers' sense of efficacy, as most commonly measured at this time, has evolved from two primary sources (Woolfolk & Hoy, 1990). The first of these sources has been the work of Ashton and Webb (1986). They have supplemented the two item teacher efficacy Likert scale used in the Rand Corporation evaluations of Title III projects (Armor et al., 1976) with interviews and classroom observations. The Rand evaluations were the first studies to reveal the significant positive relationship between teacher efficacy and pupil achievement, and the two Rand Corporation items remain representative of the items used in current measurement approaches: 1) "When it comes right down to it, a teacher really can't do much because most of a student's motivation and performance depends on his or her home environment." And 2) "If I try really hard, I can get through to even the most difficult or unmotivated students."

The second of the two current teacher efficacy measures developed by Gibson and Dembo (1984). They designed a 30-item Likert scale to measure the two factors identified by the Rand evaluators, teaching efficacy and personal efficacy. Then through factor analysis procedures the original 30 items were reduced to the 16 items now used on their Teacher Efficacy Scale.

Both the Gibson-Dembo and Ashton-Webb research teams have indicated that their teacher efficacy measures are compatible with Bandura's (1982 & 1986) cognitive social learning theory. Bandura has conceptualized human motivation as resulting from the interaction of outcome expectations (i.e., judgments related to the anticipated consequences of actions taken in a specific situation), and self efficacy expectations (i.e., ones performance level expectation in that situation). Teacher or self efficacy in these models are also considered to be closely related to locus of control as portrayed within Rotter's social learning theory.

An increasing amount of research indicates that teachers' sense of efficacy, the extent to which teachers believe that they have the capacity to affect pupil performance, is related to both teaching behaviors and pupil performance. Ashton (1984), Ashton and Webb (1982), and Tracz and Gibson (1986) found that teacher efficacy was positively related to pupil achievement; Gibson and Dembo (1984) and Ashton and Webb (1986) revealed that self efficacy was related to teachers' instructional strategies and type of classroom control, respectively; Trentham, Silvern, and Brogdon (1985) and Berman, McLaughlin, Bass, Pauly, and Zellman (1977) reported that teacher efficacy levels differed between teachers judged by superintendents to be superior and average and between teachers who were more and less willing to try innovative instruction methods, respectively; and Parkay, Greenwood, Olejnik, and Proller (1988) identified negative correlations between the level of teachers' stress and their sense of efficacy and their feelings of having an internal locus of control. These latter researchers also noted that prior research has indicated

that teachers' sense of efficacy and their feelings of having an internal locus of control are positively correlated with teachers' feelings of being responsible for the progress of their pupils.

The cognitive social learning theory of Bandura (1982 and 1986) and Denham and Michael's (1981) more explicit model of teacher efficacy suggest that teachers ought to develop higher levels of teaching efficacy as they experience continued success in teaching, but just three investigations related to this developmental hypothesis could be located in the existing research literature. Alley and Wright (1992), using the Gibson and Dembo scale, found significant gains in five of nine personal teaching efficacy items from pre- to post-student teaching, but Guyton, Fox, and Sisk (1991), also using the Gibson-Dembo scale, found no differences between midyear and year end efficacy scores for two groups of first-year teachers. And Glickman and Tamashiro (1982), using the two Rand efficacy items, found no difference between samples of first-year and fifth-year teachers, but they did find that both first- and fifth-year teachers had higher efficacy scores than did those individuals who had discontinued teaching five years after being certified as a teacher. The primary purpose of the present study was to test the developmental nature of teachers' sense of efficacy by selecting and measuring a sample of preservice teachers who had a high probability of becoming outstanding teachers and also a sample of inservice teachers who already had been recognized as being outstanding teachers but who were at distinctly different stages in their career development. More specifically, this study was designed to assess the sense of efficacy levels of highly successful teachers and of high potential prospective teachers at the commencement of teacher preparation and at early, mid, and late career development.

Methods and Procedures

The cross-sectional samples of teachers selected for study consisted of 65 outstanding prospective teachers just commencing their teacher preparation and of approximately 225 outstanding inservice teachers. One group of 84 inservice teachers were classified as early in their teaching careers (5 to 19 years of teaching), a second group of 101 inservice teachers were classified as in the middle of their careers (20 to 29 years of teaching), and a third group of 35 inservice teachers were classified as late in their teaching careers (30 plus years of teaching). The outstanding preservice teachers were all teacher candidates who had scored 24 or higher on the composite score of the American College Test (ACT) and who were enrolled in their first required education course at Bowling Green State University during spring term of 1991. The outstanding inservice teachers were Jennings Scholars attending a reunion dinner and lecture in May, 1991. These inservice teachers previously had been selected as outstanding teachers from 130 school districts in 21 northwestern Ohio counties during the 1967/68 to 1989/90 academic years.

The Jennings Scholars Lecture Program is funded by the Martha Holden Jennings Foundation of Cleveland, Ohio, and the lecture series is held every third year in this area of the state. The

Jennings Scholars are selected by their superintendents using criteria established by the Jennings Scholars Superintendents Advisory Committee. These criteria in essence state that teacher scholar selection should be considered carefully by superintendents with the award not being viewed as a political plum but as a means of identifying and honoring their best and most competent K-12 classroom teachers.

A total of approximately 625 Jennings Scholars participated in the 1991 northwestern Ohio reunion dinner and lecture. Approximately 70 other eligible Jennings Scholars had sent letters of regret due to other commitments. All active teachers, approximately 25 percent had retired from teaching, attending the reunion with from 5 to 19, 20 to 29, and 30 or more years of teaching experience were selected as subjects for the present study.

The selected outstanding preservice teachers and outstanding inservice teachers were administered the Teacher Efficacy Scale (Gibson and Dembo, 1984) in group settings. This instrument consists of 16 items responded to on a six-point scale from strongly disagree '1' to strongly agree '6'. It provides scores of personal teaching efficacy (9 items) and teaching efficacy (7 items) from two subscales derived through factor analysis procedures. Cronbach internal consistency alpha reliability coefficients were found to be .78 for the Personal Teaching Efficacy and .75 for the Teaching Efficacy scales. The Teacher Efficacy Scale was administered to the outstanding preservice teachers at required data gathering sessions during the second week of the 1991 spring term as they were being organized into field experience groups for their first required education course. The Scale was administered to the outstanding inservice teachers following their Northwestern Ohio Jennings Scholars 1991 spring reunion luncheon.

One-way ANOVA procedures were used to determine whether or not statistically significant mean differences existed between the cross-sectional samples representing outstanding teachers in the four career stages (preservice, early, mid, and late career) for each of the two scores from the Teacher Efficacy Scale. When group mean differences were identified Scheffe tests were used to ferret out each group pair mean difference. These analysis procedures also were repeated on each of the individual 16 items of the Scale to better identify the specific nature of any differences identified between the four groups of teachers.

Findings

The ANOVA procedures completed on the gathered data revealed no statistically significant ($p < .05$) mean differences between the four groups of outstanding teachers' at different stages in their careers for either the Personal Teaching Efficacy or the Teaching Efficacy scores. Differences were revealed, however, between the four groups of outstanding teachers on 5 of the 16 individual scale items. The teachers' teaching efficacy score means at the four developmental points for the Personal Teaching Efficacy ($F = 0.97$, $p = .407$) and the

Teaching Efficacy ($F = 1.90$, $p = .131$) scales are presented in Table 1.

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Insert Table 1 about here
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Three of the nine individual Personal Teaching Efficacy item means revealed significant differences between the groups of outstanding teachers at the four stages in their teaching careers (See Table 2). For each of these three items, however, differences were limited to those between the preservice and one or more of the inservice groups of teachers. The preservice teachers agreed less strongly than did the inservice teachers at the early and mid career stages with the statements that they as individual teachers knew some techniques to redirect a pupil's disruptive and noisy behavior ($F = 3.27$, $p < .05$) and that they could find better ways of teaching to allow a pupil to earn a better grade ($F = 3.91$, $p < .01$); and the preservice teachers agreed less strongly than did the mid career inservice teachers with the statement that their extra efforts as a teacher would allow a pupil to do better than usual ($F = 4.17$, $p < .01$).

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Insert Table 2 about here
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Two of the seven Teaching Efficacy scale item means revealed statistically significant differences between the groups of outstanding teachers at the four stages in their teaching careers. As was found for the Personal Teaching Efficacy scores, differences were limited to between one or more of the inservice groups and the preservice group of teachers. The preservice teachers compared to the inservice teachers early in their career agreed less strongly with the statements that even teachers with good teaching abilities may not reach many pupils ($F = 3.99$, $p < .01$); and the preservice teachers agreed less strongly than did the mid career teachers with the statement that hours in class have little influence on pupils compared to the influence of their home environment ($F = 2.85$, $p < .05$).

The five efficacy items revealing significant mean differences between the four teaching career points are presented in Table 2. The preservice teachers tended to report a somewhat lower sense of personal teaching efficacy (sense of one's own efficacy as a teacher) but a somewhat higher sense of teaching efficacy (one's sense of the efficacy of teachers as a group) on these individual items than did, in general, the groups of inservice teachers at differing stages of their career development.

Summary and Discussion

The four groups of outstanding teachers at distinctly different stages in their careers (commencement of teacher preparation and 5 to

19, 20 to 29, and 30 or more years of teaching experience) did not report statistically significant different (total) senses of Personal Teaching Efficacy or Teaching Efficacy. Mean differences were revealed between the groups of teachers, however, on 5 of the 16 individual items which make up the two scales. These differences revealed by the individual scale items suggested that the preservice teachers had a lower sense of personal teaching efficacy but a higher sense of teachers' efficacy compared to one or more of the inservice teacher groups in distinctly different stages of their teaching careers. Statistically significant differences were not found between the three groups of inservice teachers at different stages in their teaching careers, for the item differences identified were limited to differences between the preservice and one or more of the inservice teacher groups.

The Bandura (1982 and 1986) and the Denham and Michael (1981) theoretical models of the sense of teacher efficacy suggest that successful teacher preparation and subsequent successful teaching experiences ought to increase teachers' sense of efficacy. The data gathered in the present study, however, appear to lend just partial support for this postulate. Some differences for individual sense of efficacy items were found between the outstanding preservice and inservice teacher groups but not among the groups of outstanding inservice teachers at early, mid, or late career stages. These scale item differences indicated that the preservice teachers reported a somewhat higher sense of teachers' efficacy, perhaps an aspect of the idealistic expectation of teaching prevalent in preservice teachers, but a somewhat lower sense of personal teaching efficacy, perhaps due to insufficient successful teaching-type experiences, than did one or more of the groups of the outstanding inservice teachers.

It is unclear why the present study failed to provide stronger support for the developmental models of teacher efficacy. The Personal Teaching Efficacy and the Teaching Efficacy scores of the outstanding teachers in the present study did appear to be somewhat lower than those scores of teachers reported in the studies noted previously (e.g., Alley & Wright, 1992; Guyton, Fox, & Sisk, 1991). The teacher efficacy models do suggest that inservice teachers experiencing more success as compared to those experiencing less success as teachers (i.e., those with more years of successful teaching versus those with fewer years of teaching success) should score higher on the Teaching Efficacy Scale, but the data collected in the present study indicated that this was not the case. Perhaps outstanding teachers do not best reveal typical aspects of teachers' efficacy development, and certainly the present sample of teachers is not representative of all outstanding teachers.

It is also possible that other limitations in the present study may have obscured any actual differences between these groups of outstanding teachers at various career stages. It is also possible that some aspects of the teaching efficacy model are flawed such as the hypothesized relationship between the Personal Teaching Efficacy and Teaching Efficacy scores as preservice teachers progress through teacher preparation and early teaching.

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Table 1

Personal Teaching Efficacy and Teaching Efficacy Score Means at Four Stages of Teachers' Careers

	Career Stages					
Efficacy Scales	Preservice n = 65	5-19 yrs. n = 84	20-29 yrs. n = 101	30+ yrs. n = 35	F	p
Personal Teaching	38.78	39.75	38.79	37.64	0.97	.407
Teaching	23.18	24.84	25.12	24.47	1.90	.131

Table 2

Teaching Efficacy Items Revealing Significant Mean Differences Between Four Stages in Teachers' Careers

Scale item	(1) Preservice n = 65	(2) 5-19 yrs. n = 84	(3) 20-29 yrs. n = 101	(4) 30+ yrs. n = 35	F	p	Scheffe ($p < .10$)
	When a student does better than usual, many times it is because I, as his/her teacher, exerted a little extra effort.						
Personal	4.08	4.51	4.66	4.63	4.17	.007	1 < 3
	When a student gets a better grade than he usually gets, it is usually because I found better ways of teaching that student.						
Personal	3.74	4.22	4.16	4.27	3.91	.01	1 < 2 & 3
	If a student in my class becomes disruptive and noisy, I feel assured that I know some techniques to redirect him quickly.						
Personal	4.54	4.94	4.94	4.59	3.27	.03	1 < 2 & 3
	The hours in my class have little influence on students compared to the influence of their home environment.						
Teaching	2.89	3.40	3.55	3.30	2.85	.038	1 < 3
	Even a teacher with good teaching abilities may not reach many students.						
Teaching	3.29	4.11	3.85	3.81	3.99	.009	1 < 2

Note: Strongly disagree = 1, strongly agree = 6.